

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re. Appln.: R. Johannes Luyken, et al.
Serial No.: 10/600,750
Filed: June 19, 2002
For: CIRCUIT ELEMENT HAVING A FIRST LAYER COMPOSED OF
AN ELECTRICALLY INSULATING SUBSTRATE MATERIAL, A
METHOD FOR PRODUCING A CIRCUIT ELEMENT,
BISPYRIDINIUM COMPOUNDS AND THEIR USE IN CIRCUIT
ELEMENTS
Confirmation No.: 5993
Attorney: Jeffrey R. Stone
Attorney
Docket No.: 32226.65
Additional Fees: Charge to Deposit Account 023732

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL COVER LETTER

Sir:

Enclosed for filing are the following:

1. Transmittal of Information Disclosure Statement Before First Office Action and Concise Statement of Relevance;
2. Information Disclosure Statement with twenty-five (25) cited references; and
3. Postcard receipt.

Respectfully submitted,

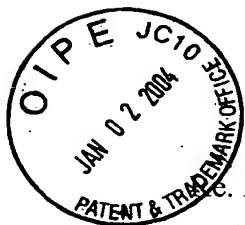
Dated: 12/30/03

By [Signature]
Jeffrey R. Stone (Reg. No. 47,976)
BRIGGS AND MORGAN
2200 IDS Center
80 South Eighth Street
Minneapolis, MN 55402
Telephone: (612) 977-8560

CERTIFICATE OF MAILING

I hereby certify that this document is being deposited with the United States Postal Service as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

By Katey Sathre
Date December 30, 2003



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: R. Johannes Luyken, et al.
Serial No.: 10/600,750
Filed: June 19, 2002
For: CIRCUIT ELEMENT HAVING A FIRST LAYER COMPOSED OF
AN ELECTRICALLY INSULATING SUBSTRATE MATERIAL, A
METHOD FOR PRODUCING A CIRCUIT ELEMENT,
BISPYRIDINIUM COMPOUNDS AND THEIR USE IN CIRCUIT
ELEMENTS
Confirmation No.: 5993
Attorney: Jeffrey R. Stone
Attorney
Docket No.: 32226.65
Additional Fees: Charge to Deposit Account 023732

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

**TRANSMITTAL OF INFORMATION DISCLOSURE
STATEMENT BEFORE FIRST OFFICE ACTION AND
CONCISE STATEMENT OF RELEVANCE**

Applicant submits herewith the reference listed on the attached Information
Disclosure Statement by Applicant.

This Information Disclosure Statement is being filed before the mailing date of a first
Office Action on the merits.

Authorization is hereby made to charge any additional fees required or credit any
overpayment to Deposit Account No. 023732.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class
Mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450,
on the date indicated below.

By

Katy Sathre
Dated December 30, 2003


CONCISE STATEMENT OF RELEVANCE

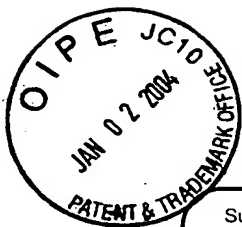
This Concise Statement of Relevance pertains to documents cited on the attached Supplemental Information Disclosure Statement by Applicant.

1. DE 101 32 640 A1 discloses a molecular electronics device and a method of manufacturing a molecular electronics device, the molecular electronics device allowing to couple molecular electronics molecules to electrodes.
2. DE 101 26 578A1 discloses a memory cell consisting of at least two different molecular or polymeric layers, respectively, forming an electrochemical red/ox-pair, discloses a memory array comprising such memory cells, and discloses a chip card comprising the memory array.
3. DE 100 23 765 A1 discloses an electrochrome device and electrochrome substances.
4. DE 198 01 638 A1 discloses electrochrome systems comprising electrochrome polymers, which are accessible by polymerization, polycondensation, and polyaddition, respectively, for use in devices for variable transmissibility of electromagnetic radiation.
5. DE 42 17 588 C2 discloses photosensitivity-devices of high stability, and discloses methods of producing the photosensitivity-devices.
6. Dehmlov, EV, Slegers, A "Synthesen von hydroxylierten Bipyridinen, III: Synthese von unsymmetrischen und symmetrischen Dihydroxybipyridinen", Liebigs Ann. Chem. 9, S953-959, 1992 discloses synthesis of hydroxylated bipyridines, synthesis of unsymmetrically and symmetrically structured dihydroxybipyridines. Preparation and synthesis of fifteen symmetrical and asymmetrical dimethoxybipyridines and the pertinent diols is disclosed. Reductive cross coupling of halopyridines with Ni (0) may result in complex mixtures. The same is true for an alternative reaction of (trimethylstannyl) pyridines with halopyridines in the presence of Pd(0). UV ¹H-, and ¹³C- NMR spectra of the bipyridine derivates are tabulated.

Respectfully submitted,

Dated: 12/30/03

By 
Jeffrey R. Stone (Reg. No. 47,976)
Briggs and Morgan, P.A.
2200 IDS Center
80 South Eighth Street
Minneapolis, MN 55402
Telephone: (612) 977-8560



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>	Complete if Known	
	Application Number	10/600,750
	Filing Date	June 19, 2003
	First Named Inventor	R. Johannes Luyken
	Group Art Unit	
	Examiner Name	
Sheet 1 of 3	Attorney Docket Number	32226.65

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1	6,198,655	03-06-2001	Heath	

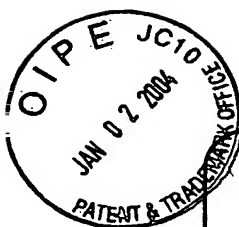
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	1	DE 101 32 640	01-23-2003	Luyken		
	2	DE 101 26 578	12-12-2002	Leuschner		
	3	DE 100 23 765	11-22-2001	Horst		
	4	DE 198 01 638	07-22-1999	Claussen		
	5	DE 42 17 588	12-02-1993	Duerr		
	6	JP 56118002 (Abstract only)	09-16-1981	Fujimoto		
	7	JP 57014507 (Abstract only)	01-25-1982	Fujimoto		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/600,750
		Filing Date	June 19, 2003
		First Named Inventor	R. Johannes Luyken
		Group Art Unit	
		Examiner Name	
Sheet 2	of 3	Attorney Docket Number	32226.65

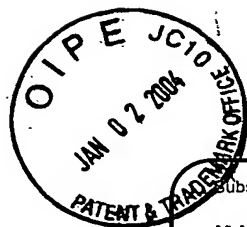
OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	C.P. COLLIER et al., Electronically configurable molecular-based logic gates, Science, Vol. 285, S. 391-394, 1999.	
	2	C.P. COLLIER et al., A [2] Catenane-based solid state electronically reconfigurable switch, Science, Vol. 289, pp. 1172-1175, 2000.	
	3	D.I. Gittins et al., A nonometre-scale electronic switch consisting of a metal cluster and redox-addressable groups, Nature, Vol. 408, pp. 67-69, 2000.	
	4	KAWASHIMA et al., The synthesis and properties of a methylviologen analogue, Tetrahedron Letters, Vol. 25, Nr. 25, pp. 1585-1586, 1984.	
	5	A.J. Blacker et al., Molecular Anion Binding and Substrate Photooxidation in Visible Light by 2, 7-Diazapyrenium Cations, Helvetica Chimica Acta, Vol. 70, pp. 1-12, 1987.	
	6	R. BAUER et al., Synthesis and electrochemical properties of some new bypyridinium and related compounds, Z. Naturforsch., B: Chem. Sci. 43(4), pp. 475-482, 1988.	
	7	J. MARCH, Advanced Organic Chemistry, 3. Auflage (Wiley, New York, 1985), p. 597ff.	
	8	P. STEHLE et al., Isotachophoresis of quarternary 4,4'-Bipyridylum Salts - Analytical control of synthesis and purification procedures, J. Chromatogr. 449(1), 299-3-5, 1988.	
	9	H.C. DELONG & D.A. BUTTRY, Ionic Interaktions play a major role in determining the electrochemical behavior of self-assembling viologen monolayers, Langmuir, 6, pp. 1319-1322, 1990.	
	10	X. TANG et al., A vibrational spektroskopische study of the structure or electroactive self-assembled monolayers of viologen derivatives; Langmuir, 10, pp. 2235-2240, 1994	
	11	H.C. DELONG & Buttry, Environmental effects on redox potential of viologen groups in electroactive self-assembling viologen monolayers, Langmuir, 8, pp. 2491-2496, 1992.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 3

Complete if Known

Application Number	10/600,750
Filing Date	June 19, 2003
First Named Inventor	R. Johannes Luyken
Group Art Unit	
Examiner Name	
Attorney Docket Number	32226.65

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	12	D.I. GITTINS et al., Diode-like electron transfer across nanostructured films containing a redox ligand, J. Mater. Chem., vol. 10, pp. 79-83, 2000.	
	13	E.V. DEHMLow & A. SLEEGERS, Synthesen von hydroxilierten Bipuridinen, III: Synthese von unsymmetrischen und symmetrischen Dihydroxybipuridinen, Liebigs Ann. Chem. 9, pp. 953-959, 1992.	
	14	H. FISCHER & A.L. SUMMERS, Synthesis, polarography and herbicidal activity of quaternary salts of 2-(4-pyridyl)-1,3,5,5-triazines, 5-(4-pyridyl) pyrimidine, 2-(4-pyridyl) pyrimidine and related compounds, J. Heterocycl. Chem. 17(2), pp. 333-336, 1980.	
	15	E.W. GILL & A.W. BRACHER, The synthesis and characterization of some diazaphenanthrene derivatives, J. Heterocyclic Chem. 20, pp. 1107-1109, 1983.	
	16	D.W. TURNER et al., Molecular Photoelectron Spectroscopy, Wiley, London, 1970.	
	17	A. Ulman, Formation and Structure of Self-Assembled Monolayers, Chem. Rev., Vol 96(4), 1533-1554 (1996).	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.